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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/985,741 | 11/06/2001 | Hiroshi Koide | 215810US3 | 4234 |
| 22850 | 7590 | 10/03/2003 | EXAMINER | |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. | | | PHAM, HAI CHI | |
| 1940 DUKE STREET | | | ART UNIT | |
| ALEXANDRIA, VA 22314 | | | PAPER NUMBER | |
| | | | 2861 | |

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/985,741

Applicant(s)

KOIDE, HIROSHI

Examiner

Hai C Pham

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-8,10-14,17-34 and 36-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-34,36-39 and 41-43 is/are allowed.
- 6) ☒ Claim(s) 1,2,6,10,11 and 13 is/are rejected.
- 7) ☒ Claim(s) 3,4,7,8,12,14 and 40 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Duplicate Claims Warning

1. **Claim 40** is objected to under 37 CFR 1.75 as being a substantial duplicate of claim **34**. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. (U.S. 5,995,802) in view of Chapman et al. (U.S. 6,560,434 B2).

Mori et al. discloses an image forming apparatus comprising a belt driving means comprising a first roller (drive roll 25) positioned at one end of the belt (transfer belt 24) for driving said belt, at least one rotary body (photoreceptor drums 6Y, 6C, 6M, 6B) arranged side by side in a direction of movement of the belt and pressed against said belt directly, wherein the first roller has allowable eccentricity reduced to a range such that it does not effect a variation of a speed of the belt (the eccentricity of the drive roll

being reduced through the precision of the manufactured drive roll [see col. 19, lines 50-62] and/or by setting the diameter of the drive roll to a required ratio with respect to the diameter of the photoreceptor drum [col. 33, line 66 to col. 34, line 50]).

However, Mori et al. fails to teach a second roller adjoining the first roller and the second roller having an allowable reduced eccentricity.

Chapman et al. discloses an image forming apparatus having an intermediate transfer belt (32) driven by the drive roller (34), photosensitive drums (22Y, 22C, 22M, 22B) arranged side by side in a direction of movement of the belt and pressed against said belt directly, and a second roller (tension wheel 54) adjoining the drive roller and contacting the belt at a side where the photosensitive drums are positioned (Fig. 1), wherein the eccentricity of the wheel (54) is set within a reasonable tolerance to maintain print quality within the apparatus (col. 6, lines 19-50).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the second roller with an acceptable eccentricity tolerance as taught by Chapman et al. in the device of Mori et al. The motivation for doing so would have been to reduce the fluctuation in the speed of the belt and to maintain print quality within the image forming apparatus as suggested by Chapman et al.

With regard to claims 2 and 6, Mori et al. further teaches the drive roll (25) comprising a motor (80), as well as the adjusting mechanism of the eccentricity of the drive roll and/or the photoreceptor drums to correct the color misregistration, e.g., adjusting the phase and amplitude of belt AC vibration components (Fig. 13).

4. Claims 10-11, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. in view of Noguchi et al. (JP 10-260590).

Mori et al. discloses all the basic limitations of the claimed invention (see above paragraph 3) except for the stationary guide body.

Noguchi et al. discloses an image forming apparatus having an endless belt (4) driven by a drive roll (2A) integrally formed with a shaft (2aa), a motor (70), and a stationary guide body (tension roll 2C) positioned on the opposite side of the belt with respect to the driving roll.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a stationary tension roll as taught by Noguchi et al. in the device of Mori et al. the motivation for doing so would have been to prevent a widthwise motion of the belt.

Allowable Subject Matter

5. Claims 17-34, 36-39, 41-43 are allowed.

6. Claims 3-4, 7-8, 12, 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is an examiner's statement of reasons for allowance: the primary reason for the indication of the allowability of the claimed invention, with respect to claims 17-34, 36-39, 41-43, is the inclusion of the limitation, in the combination as

currently claimed, that the claimed apparatus comprises an outer rotor coreless motor driving at least one of the drive roller and the photosensitive drum, which is not found taught or fairly suggested by the prior arts made of record, considered alone or in combination.

The primary reason for the indication of the allowability of the claimed invention is the inclusion of the limitation "wherein dynamic balance is set up on a rotary portion of said motor and said first roller integrally", in the combination as currently claimed in each of the claims 3-4, 7-8, 12, 14, and which is not found taught or fairly suggested by the prior arts made of record, considered alone or in combination.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (703) 308-1281. The examiner can normally be reached on T-F (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin R. Fuller can be reached on (703) 308-0079. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722, (703) 308-7724, (703) 308-7382, (703) 305-3431, (703) 305-3432.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



HAI PHAM
PRIMARY EXAMINER

September 20, 2003